

REMARKS

This Application has been carefully reviewed in light of the Final Office Action mailed May 11, 2006 (the “*Office Action*”). Claims 1-9 and 11-20 are pending in the Application and stand rejected. Applicant respectfully requests reconsideration and favorable action in this case.

Claim Rejections - 35 U.S.C. § 103

- A. Claims 1-9, 11, 13-17, 19, and 20 are patentable because the proposed *Colbourne-Delavaux-Keys* combination fails to teach or suggest all elements of the claims and the proposed combination is improper.**

The Examiner rejects Claims 1-9, 11, 13-17, 19, and 20 under 35 U.S.C. §103(a) as unpatentable based on a proposed combination of U.S. Patent No. 6,654,564 issued to Colbourne et al. (“*Colbourne*”), U.S. Patent No. 5,608,562 issued to Delavaux et al. (“*Delavaux*”), and U.S. Patent No. 6,456,773 issued to Keys (“*Keys*”). Applicant respectfully traverses the rejection on the ground that *Colbourne*, *Delavaux*, and *Keys*, whether taken alone or in combination, fail to teach or suggest all limitations of the claims. Also, Applicant respectfully submits that the rejection under § 103 is improper because the cited references teach away from the claims and/or other cited references.

- 1. The *Colbourne-Delavaux-Keys* combination fails to teach or suggest all elements of Claims 1-9, 11, 13-17, 19, and 20.**

Consider Claim 1, which recites:

A dispersion compensation system comprising:
a dispersion compensation module (DCM) operable to receive optical input and provide optical output having a negative dispersion relative to the optical input; and
a dispersion enhancement module (DEM) adapted to be optically coupled between the DCM and an optical fiber having a positive dispersion, the DEM operably including a plurality of dispersion enhancement fibers and operable to selectively increase the positive dispersion provided by the optical fiber by a selected one of a plurality of amounts and to provide the optical input to the DCM, the optical input having a positive dispersion substantially equal to the positive dispersion of the optical fiber plus the selected one of the amounts of dispersion in the DEM.

Applicant appreciates the Examiner’s consideration of and response to Applicant’s previously submitted arguments. In response, Applicant more fully explains why the references at least

fail to teach or suggest “a dispersion enhancement module (DEM) . . . the DEM operably including a plurality of dispersion enhancement fibers and operable to selectively increase the positive dispersion provided by the optical fiber,” as required by Claim 1.

As teaching the claimed aspects, the *Office Action* relies on *Colbourne*, *Delavaux*, and *Keys*. The Examiner admits that *Colbourne* fails to teach or suggest “the dispersion enhancement module comprising a plurality of dispersion enhancement fibers.” *Office Action*, p. 2. In response to Applicant’s previously submitted arguments, the Examiner correctly notes that *Colbourne*’s failure to teach or suggest every aspect of the claimed dispersion enhancement module does not mean that *Colbourne* fails to teach or suggest any aspect of it. *See Office Action*, pp. 11-12. However, because *Colbourne* fails to teach or suggest that the dispersion enhancement module operably includes a plurality of dispersion enhancement fibers, the *Office Action* must rely on either *Delavaux* and *Keys* as teaching or suggesting these claimed aspects. However, Applicant respectfully submits that *Delavaux* and *Keys* also fail to teach or suggest a dispersion enhancement module operably including a plurality of dispersion enhancement fibers, as required by the claim.

As noted previously by Applicant, *Delavaux* and *Keys* teach two alternative methods for providing a single dispersion compensation module. *Delavaux*, in general, discloses a dispersion compensation unit (element 9 in Figures 1 and 2) that includes multiple strands of dispersion compensation fiber. *See, e.g., Delavaux*, Figs. 5 and 6. *Delavaux* teaches that each of the dispersion compensation fibers has a negative dispersion relative to a system fiber. *Delavaux*, col. 1, ll. 37-38. However, Claim 1 requires a dispersion enhancement module operably including a plurality of dispersion enhancement fibers and operable to selectively increase the positive dispersion provided by the optical fiber. *Delavaux* fails to teach or suggest these claimed aspects.

Similar to *Delavaux*, *Keys* discloses a technique by which a dispersion compensation module can be set to provide a desired level of dispersion compensation. In *Keys*’s alternative technique, *Keys* uses individual packages of dispersion compensation fiber, with each package having a set amount of dispersion compensation fiber. While *Keys* may disclose that “[s]ome of the DCF segments have a positive dispersion,” *Keys* teaches that “[s]elected DCF segments are coupled to one another to provide a desired net dispersion to offset the dispersion associated with the transmission optical fiber.” *Keys*, col. 1, ll. 59-63 (emphasis added). Thus, *Keys* fails to teach or suggest a dispersion enhancement module

operably including a plurality of dispersion enhancement fibers and operable to selectively increase the positive dispersion provided by the optical fiber, as required by Claim 1.

Accordingly, *Delavaux* and *Keys* fail to teach or suggest a “DEM operably including a plurality of dispersion enhancement fibers and operable to selectively increase the positive dispersion provided by the optical fiber,” as required by Claim 1. Rather, these references simply provide two alternate techniques for providing a dispersion compensation module that can be set to a selected amount of negative dispersion.

Applicant thus respectfully submits that *Colbourne*, *Delavaux*, and *Keys*, whether taken alone or in combination, fail to teach or suggest every element of Claim 1. Likewise, independent Claims 9, 13, and 16 include limitations that, for substantially similar reasons, are not taught or suggested by the references. Because *Colbourne*, *Delavaux*, and *Keys*, whether taken alone or in combination, fail to teach or suggest every element of independent Claims 1, 9, 13, and 16, Applicant respectfully requests reconsideration and allowance of Claims 1, 9, 13, and 16, and their respective dependent claims.

2. The use of the references under § 103 is improper.

If a reference teaches away from the claims or another reference, then the use of that reference under § 103 is improper. M.P.E.P. § 2145. First, Applicant respectfully submits that *Colbourne* teaches away from the claims. Also, *Delavaux* and *Keys* teach away from a combination with each other. Thus, the use of these reference in constructing a *prima facie* obviousness rejection is improper.

a. *Colbourne* teaches away from the proposed combination, and, thus, the use of *Colbourne* under § 103 is improper.

Applicant’s independent Claim 1, for example, requires “a dispersion enhancement module . . . operably including a plurality of dispersion enhancement fibers.” However, *Colbourne* teaches away from these claimed aspects.

In response to Applicant’s previously submitted arguments the *Office Action* argues that *Colbourne*’s statement “does not mean that *Colbourne* teaches away from the combination” because *Colbourne*, in discouraging the use of dispersion compensators, also points out that it is possible to use them to providing a fixed dispersion for optical fibers. However, in the entire statement, *Colbourne* clearly discourages the use of dispersion compensating fibers with the rest of *Colbourne*’s disclosure:

The advantage of the utilizing the device in accordance with the invention to compensate for a fixed repeated dispersion in for example an output signal received from a multiplexor [sic] suffering from periodically repeated dispersion characteristics is evident after viewing FIGS. 2 through 6. However, the invention can provide other unexpected advantages. Dispersion compensators such as dispersion compensating fiber can be used for providing a fixed negative or positive dispersion for optical fibres [sic]. However, dispersion compensating fiber cannot compensate for the wavelength dependence of dispersion.

Id., col. 9, ll. 6-16 (emphasis added). Therefore, *Colbourne* identifies his invention as having an advantage over a system that relies upon dispersion compensation fibers. Applicant respectfully submits that *Colbourne*'s teaching away from the claims "is a significant factor to be considered in determining obviousness" and, upon that consideration, eliminates the asserted *prima facie* case of obviousness under § 103. Further, Applicant respectfully submits that the Federal Circuit has stated:

An applicant may rebut a *prima facie* case of obviousness by providing a "showing of facts supporting the opposite conclusion." Such a showing dissipates the *prima facie* holding and requires the examiner to "consider all of the evidence anew." *Piasecki*, 745 F.2d at 1472; *In re Rinehart*, 531 F.2d 1048, 1052 (CCPA 1976). Rebuttal evidence may show, for example, . . . that the prior art teaches away from the claimed invention . . . [*In re Geisler*, 116 F.3d 1465, 1471 (Fed. Cir. 1997)].

In re Kumar, 418 F.3d 1361, 1368, 76 U.S.P.Q.2d 1048, 1052 (Fed. Cir. 2005) (emphasis added).

Applicant thus respectfully submits that *Colbourne* teaches away from Claim 1. Also, *Colbourne* teaches away from independent Claims 9, 13, and 16 for substantially similar reasons. Because *Colbourne* teaches away from limitations of Claims 1, 9, 13, and 16, the use of *Colbourne* under § 103 is improper. For at least this reason, Applicant respectfully requests reconsideration and allowance of Claim 1, 9, 13, and 16, and their respective dependent claims.

b. *Delavaux* and *Keys* teach away from a combination with each other, and, thus, the combination of *Delavaux* and *Keys* under § 103 is improper.

Delavaux and *Keys*, as discussed above, teach alternate techniques for accomplishing a similar end result. As previously argued by Applicant, one of skill in the art would not be

motivated to pick and choose different aspects of these two alternates, but rather would be inclined to select only one of the two.

In response to Applicant's previously submitted arguments, the *Office Action* argues that *Delavaux* and *Keys* are, in fact, properly combinable. However, the Manual of Patent Examining Procedure states: "It is improper to combine references where the references teach away from their combination." M.P.E.P. § 2145 (citing *In re Grasselli*, 713 F.2d 731, 743, 218 U.S.P.Q. 769, 779 (Fed. Cir. 1983)).

For at least this reason, the proposed *Colbourne-Delavaux-Keys* combination is improper. Accordingly, Applicant respectfully requests reconsideration and allowance of Claims 1-9, 11, 13-17, 19, and 20.

B. Claims 12 and 18 are patentable because the proposed *Colbourne-Delavaux-Keys-Feinberg* combination fails to teach or suggest all elements of the claims.

The Examiner rejects Claims 12 and 18 under 35 U.S.C. § 103(a) as unpatentable based on the proposed combination of *Colbourne*, *Delavaux*, *Keys*, and U.S. Patent Application Publication No. 2003/0031433 issued to Feinberg ("*Feinberg*").

As described above, Applicant has shown that *Colbourne*, *Delavaux*, and *Keys*, whether taken alone or in combination, fail to teach or suggest all limitations of independent Claims 9 and 16. Accordingly, the proposed *Colbourne-Delavaux-Keys* combination fails to teach or suggest all limitations of Claims 12 and 18 because these dependent claims incorporate the limitations of their respective independent claims. *Feinberg* fails to remedy the deficiencies of the proposed *Colbourne-Delavaux-Keys* combination.

Thus, *Colbourne*, *Delavaux*, *Keys*, and *Feinberg*, whether taken alone or in combination, fail to teach or suggest all limitations of Claims 12 and 18. Because the references fail to teach all limitations of the claims, Applicant respectfully requests reconsideration and allowance of Claims 12 and 18.

CONCLUSION

Applicant has made an earnest attempt to place the Application in condition for allowance. For the foregoing reasons, and for other reasons clearly apparent, Applicant respectfully requests full allowance of all pending claims. If the Examiner feels that a telephone conference or an interview would advance prosecution of the Application in any manner, the undersigned Attorney for Applicant stands ready to conduct such a conference at the convenience of the Examiner.

No fee is believed to be due. However, the Commissioner is hereby authorized to charge any extra fees or credit any overpayments to Deposit Account No. 02-0384 of BAKER BOTTS L.L.P.

Respectfully submitted,

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